

# Extron® Electronics

INTERFACING, SWITCHING AND DISTRIBUTION



Ackermann GES9B floor  
box installation

Advanced Digital Sync  
Processing™

Active audio interfacing

300 MHz (-3dB) video  
bandwidth

15-130 kHz compatibility

9-pin D input  
(RGB 500 AKM)

Female 15-pin HD input  
(RGB 560 AKM)

Buffered local monitor output  
(RGB 560 AKM)

Level/peaking control

Horizontal centering

RGsB, RGBS, or  
RGBHV output

12-24VAC/VDC



## DESCRIPTION

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Extron's RGB 500 AKM and RGB 560 AKM with audio and ADSP™ are universal, computer-video interfaces designed for use with the Ackermann floor tank system. The RGB 500 AKM or RGB 560 AKM fits flush within the included Ackermann GES9B mounting box for convenient and easy installation with RGB output connections on 6" cable extensions. The RGB 500 AKM and RGB 560 AKM feature a 15-130 kHz horizontal scanning range with 300 MHz (-3dB) video bandwidth, a choice of male 9-pin D or female 15-pin HD input connectors, Extron's exclusive Advanced Digital Sync Processing (ADSP™), and active audio interfacing. These interfaces are compatible with VGA, SVGA, XGA, SXGA, UXGA, Mac, Sun, SGI, and other signals.

The RGB 500 AKM's universal 9-pin D connector is compatible with any computer using one of Extron's high-quality laptop breakout cables, monitor breakout cables, MBC buffers, or internal computer wiring kits. The RGB 560 AKM offers a female 15-pin HD input connector for easy connection to VGA-style computers, with Mac/Quadra and Sun/SGI adapter cable kits available, and a buffered local monitor output. ADSP provides all-digital sync processing so that stable images are produced on digital display devices (DLP, LCD, and plasma). Audio interfacing converts computer-generated, unbalanced audio to line-level balanced audio.

## FEATURES

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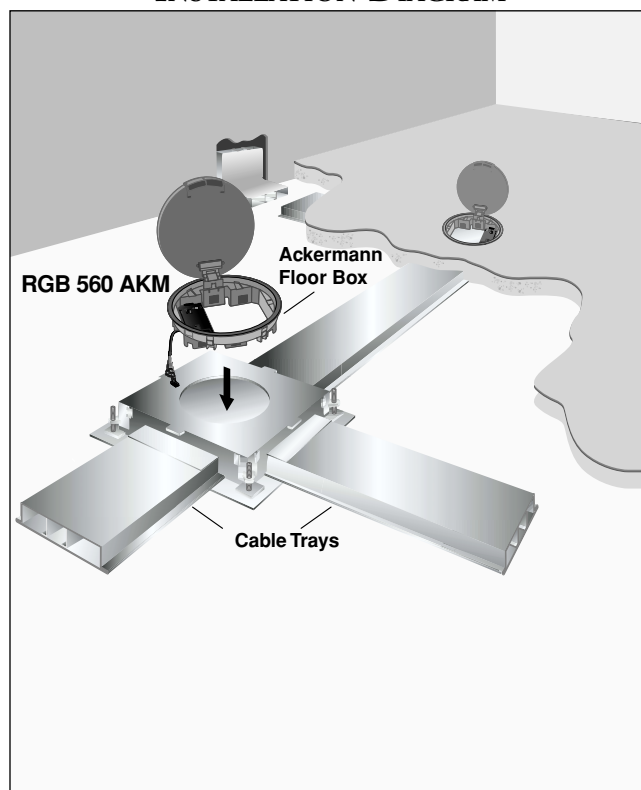
- **Bandwidth**— 300 MHz (-3dB).
- **Input connector**— The RGB 500 AKM provides a male 9-pin D input connector; the RGB 560 AKM provides a female 15-pin HD input connector.
- **Buffered local monitor output**— The RGB 560 AKM offers a female 15-pin HD buffered local monitor output.
- **Advanced Digital Sync Processing (ADSP)**— ADSP provides all-digital sync processing to produce extraordinarily stable images on digital display devices.
- **Active audio interfacing**— Converts unbalanced audio to line-level balanced audio. Balanced audio maintains signal quality over long cable runs, whereas unbalanced audio does not.
- **Horizontal centering**— Shifts displayed image horizontally.

## FEATURES (Cont.)

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- **Level and peaking**— Level and peaking compensate for signal losses over long cable runs. Level control adjusts the brightness level of the displayed image, and peaking control adjusts the sharpness level of the displayed image.
- **ID bit termination**— Available on RGB 560 AKM—switch-selectable.
- **75 ohm video termination**— Available on RGB 500 AKM—switch-selectable.
- **Selectable sync output**— Choice of composite or separate horizontal and vertical sync—switch-selectable. Sync on green also available.
- **Selectable sync polarity**— Choice of positive or negative polarities for separate horizontal and vertical sync.
- **Power**— 12-24VAC/VDC accepted through captive screw connectors.
- **Dual color LED**— Displays power applied (amber) and signal present (green).

### INSTALLATION DIAGRAM



# ACCESSORIES

## Monitor breakout cables: RGB 500 AKM

MBC VGA/XGA HR.....	26-162-01
MBC Mac Quadra .....	26-018-01
MBC Sun Sparc HR .....	26-424-01
MBC SGI/13W3 HR.....	26-425-01

## Laptop breakout cables RGB 500 AKM:

Laptop breakout cables are available in 3', 6', and 12' lengths with or without audio. Contact Extron for the specific cable for your application.

LBC VGA HR 6' .....	26-224-01
LBC Mac HR 6' .....	26-363-01
LBC Sun HR 6' (61 kHz) .....	26-413-01
LBC Sun HR 6' (71 kHz) .....	26-413-02
LBC Sun HR 6' (81 kHz) .....	26-413-03
LBC VGA HR 6' A .....	26-441-02

LBC Mac HR 6' A.....	26-442-02
LBC Sun HR 6' A (61 kHz) .....	26-443-02
LBC Sun HR 6' A (71 kHz) .....	26-444-02
LBC Sun HR 6' A (81 kHz) .....	26-445-02

## Signal input cable kits for RGB 560 AKM:

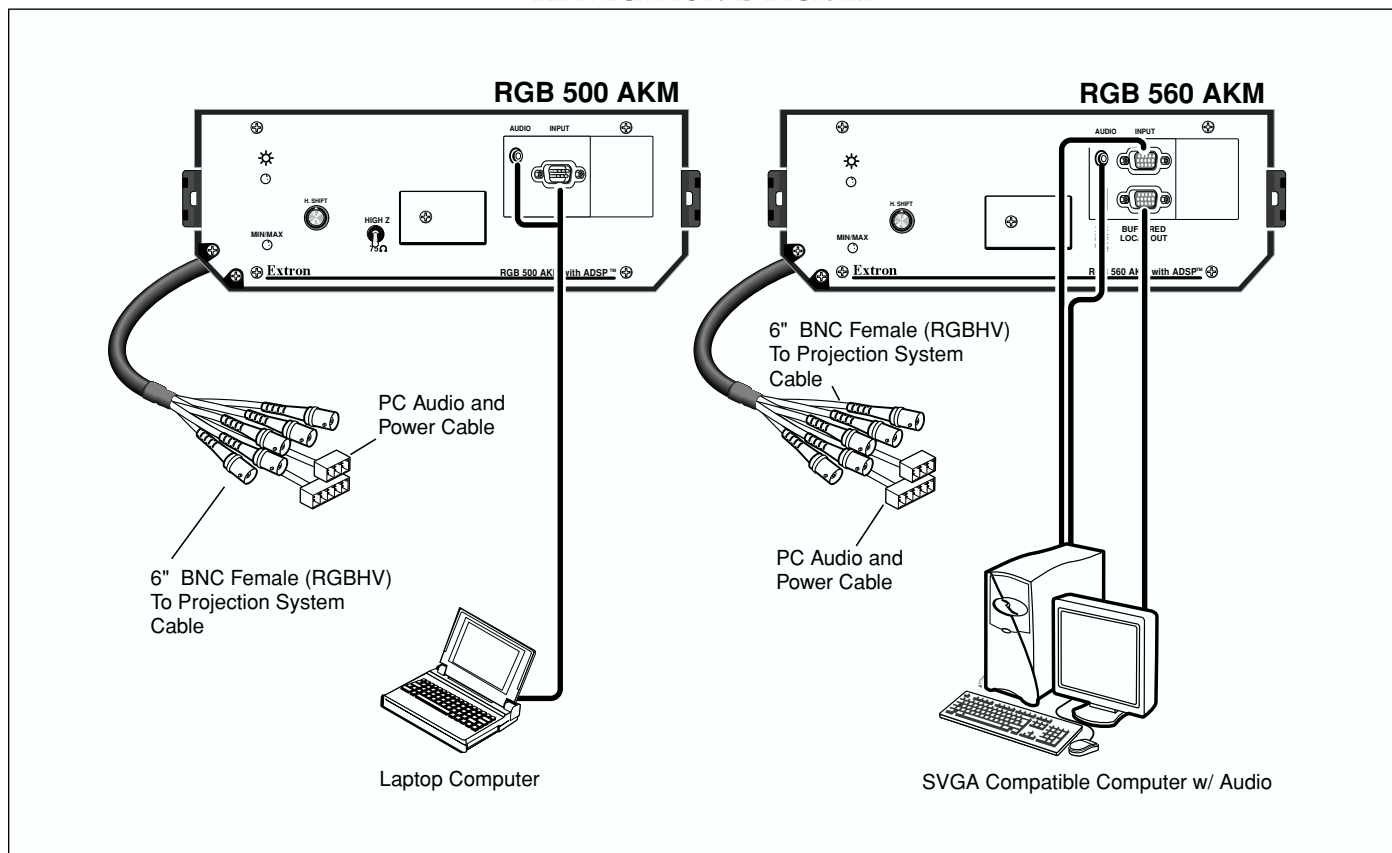
VGA M6' MHR.....	26-238-01
VGA M3' MHRA .....	26-490-01
VGA M6' MHRA .....	26-490-02
VGA M12' MHRA .....	26-490-03
Mac 15-pin HD F Adapter kit with Audio.....	70-156-01
13W3 15-pin HD F Adapter kit with Audio .....	70-157-01

## Extron power supply

100-240 VAC, 50/60 Hz to 12 VDC/1A-External  
auto-switchable\* .....

\*Includes US-style power cord

## APPLICATION DIAGRAM



# SPECIFICATIONS

## Video

Gain .....	Unity (0.70V p-p), (0.725V p-p) 50% peaking, (0.75V p-p) 100% peaking
Bandwidth .....	300 MHz (-3dB)

## Video input

Number/signal type .....	1 analog RGBHV, RGBS, RGsB, RsGsBs
Connectors	
RGB 500 AKM .....	1 9-pin D male, MBC/LBC cable or buffer
RGB 560 AKM .....	1 15-pin HD female
Minimum/maximum levels.....	Analog—0.3V to 1.5V p-p with no offset
Impedance .....	75 ohms or High Z, switchable (set to 75 ohms if no local monitor is connected)
Horizontal frequency .....	Autoscan 15 kHz to 130 kHz
Vertical frequency .....	Autoscan 30 Hz to 120 Hz
Return loss .....	-30dB @ 5 MHz
Maximum DC offset .....	4.0V

## Video output

Number/signal type .....	1 analog RGBHV, RGBS, RGsB
Connectors .....	5 BNC female
RGB 560 AKM .....	1 15-pin HD female for buffered local monitor output
Minimum/maximum levels .....	0.70V to 0.75V p-p with no offset and 0.7V p-p input
Impedance .....	75 ohms
Return loss .....	-30dB @ 5 MHz

## Sync

Input type .....	RGBHV TTL ( $\pm$ ), RGBS TTL (-), RGsB 0.3V (-), RsGsBs 1.3V (-)
Output type .....	RGBHV ( $\pm$ ), RGBS(-), RGsB (-)
Input level .....	2V to 5.5V p-p with $\pm 0.3$ VDC offset (max.)
Output level .....	4V to 5V p-p
Input impedance .....	10 kohms
Output impedance .....	75 ohms
Max. input voltage .....	5.7V p-p
Max. propagation delay .....	48 nS
Max. rise/fall time.....	3.5 nS
Polarity	
AKM models .....	RGBHV: Polarity follows input when RGBHV is input and the sync polarity switch is set to Off. Sync polarity is negative if the sync polarity switch is set to On.
	RGsB, RGsB: Negative

## Audio

Gain.....	Unbalanced 0dB, balanced +6dB
Frequency response .....	20 Hz to 20 kHz, $\pm 0.05$ dB
THD + Noise .....	0.03% @1 kHz, 0.3% @ 20 kHz at rated maximum output drive
S/N .....	>90dB at rated maximum output (14dBm), balanced
Stereo channel separation .....	>95dB @ 1 kHz to 20 kHz

## Audio input

Number/signal type .....	1 PC level stereo, unbalanced
Connectors .....	1 3.5 mm stereo jack, 2 channel; tip (L), ring (R), sleeve (ground)
Impedance .....	10 kohms, DC coupled
Maximum level .....	+8.5dBu, (unbalanced) at stated %THD+N

## Audio output

Number/signal type .....	1 stereo (2 channel), balanced/unbalanced
Connectors .....	1 3.5 mm stereo captive screw connector, 5 pole, for left and right output
Impedance .....	50 ohms unbalanced, 100 ohms balanced
Gain error.....	$\pm 0.1$ dB channel to channel
Maximum level (600 ohm).....	> +14dBm, balanced at stated %THD+N

## General

Power .....	12 to 24VAC or VDC, 0.35 A, 5 watts, external (Order the power supply separately, part #70-055-01.)
Enclosure type .....	Ackermann GES9B
Enclosure dimensions —	RGB 500 AKM, RGB 560 AKM
Interface .....	3.1" H x 8.1" W x 1.6" D (7.8 cm H x 20.6 cm W x 4.1 cm D) (Depth excludes connectors and knobs.)
Shipping weight .....	3 lbs (1.4 kg)
Vibration .....	ISTA/NSTA 1A in carton (International Safe Transit Association)
Approvals .....	UL, CE
MTBF .....	30,000 hours
Warranty .....	2 years parts and labor

## Part Numbers

RGB 500 AKM .....	60-313-01
RGB 560 AKM .....	60-314-01



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